CLAIMS

1. Implementation process of a conversational rational agent as kernel of a dialogue system and/or as element (agent) of a multiagent system including the following stages

- definition of a conceptual architecture of a conversational rational agent,
- formal specification of the different components of this architecture and their combination permitting a formal model to be obtained,

characterized in that it includes the definition of a software architecture implementing the formal architecture, this definition consists in,

- a definition of mechanisms that implement the formal specification including:
- data including predefined axiom schemes and axiom schemes dependent on the desired application,
- a knowledge base dependent on the desired application including a semantic network and inter-concepts distances,
- an inference engine to implement formal specification mechanisms by means of data and the knowledge base in order to be able to receive a logical statement, understand it, and to be able to provide a logical statement in response,
- the rational agent is thus intended to converse with another agent or with a system user through any communications medium.

2. Implementation process according to the claim 1, characterized in that the definition of the software

architecture implementing the formal architecture is realized by a rational unit (100) containing a rationality axioms implementation layer, a communication axioms implementation layer, a cooperation axioms implementation layer, corresponding respectively to axioms predefined by the formal model.

3. Implementation process according to claim 1 characterized in that the definition of the software architecture implementing the formal architecture includes besides:

- a generation module (160) to transcribe a sequence produced by the rational unit (100) in a user's natural language statement and a comprehension module (150) to interpret the user's statement into a logical statement comprehensible by the rational unit; these modules implement therefore a natural language communications layer.

4. Implementation process according to claim 1, characterized in that the implementation of mechanisms for implementing the formal model is realized by the rational unit (100), the generation module (160) and comprehension module (150).

5. Conversational rational agent placed as a kernel of a dialogue system and/or as element (agent) of a multiagent system, including:

- a definition of a conceptual architecture,
- a formal specification of different components of this architecture and their combination allowing a

formal model to be obtained,

characterized in that it includes:

- a software architecture implementing the formal architecture and containing a rational unit (100) intended to implement mechanisms for implementation of the formal specification, this unit (100) contains for that:

- data including predefined axiom schemes and of axiom schemes dependent on the desired application, a knowledge base depending on the application including a semantic network and inter-concepts distances,

- an inference engine to implement the formal specification mechanisms by means of data and the knowledge base in order to be able to receive a logical statement, understand it and be able to provide a logical statement in response.

6. Conversational rational agent placed as a kernel of a dialogue system and/or as element (agent) of a multiagent system according to claim 5 characterized in that, the data comprise implementation data of a formal model including:

- an implementation layer of rationality axioms, an implementation layer of communication axioms, an implementation layer of cooperation axioms, corresponding respectively to axioms of the formal model.

7. Conversational rational agent placed as a kernel of a dialogue system and/or as an element (agent) of a multiagent system according to claim 5

characterized in that it includes besides:

- a natural language statement generation module (160) from a logical statement coming from the rational unit (100) and a comprehension module (150) to provide a logical language statement to the rational unit from a natural language statement; these modules thus implement a communications layer in natural language.

8. Man/machine dialogue system, including a conversational agent according to claim 7.

9. Information server characterized in that it include the means to implement a man/machine dialogue system according to claim 8.

10. Multiagent system including communicating agents, each agent including the means to implement an interaction, characterized in that it includes at least one agent where the kernel rests on the implementation of a conversational rational agent according to claim 1.